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ABSTRACT

Developed by the ABCs of Construction National Workplace Literacy Project, these curriculum materials for the occupational area of millwright contain two lessons that deal with finding the main idea. Each lesson consists of an objective, instruction, and exercises. Lesson 1 contains nine exercises, and Lesson 2 has five. The objectives for the two lessons are for the student to be able to find main ideas in paragraphs and passages and for the student to be able to recognize sequence and comparison-contrast paragraph and passage construction. (YLB)

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TECHNICAL DEVELOPMENT CENTER
ED 374 296

Finding the **Main Idea**

MILLWRIGHT

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Associated Builders & Contractors, Inc.
EBR Adult & Continuing Education

CE 067 234

ABC's of Construction
National Demonstration Project in Workforce Literacy

The ABC's of Construction Project was funded in 1991 by the U.S. Department of Education as a grantee through the National Workplace Literacy Program (PR #198A10155). The program provided basic skills instruction to industrial construction workers employed by companies which are members of the Pelican Chapter of Associated Builders and Contractors (ABC). Located in Baton Rouge, Louisiana, ABC provides training to employees of over 60 member companies who perform contract work in the 58 petrochemical facilities located along the Mississippi River between Baton Rouge and New Orleans.

The grantee, the Adult Education Department of East Baton Rouge School Board, performed a comprehensive literacy task analysis of the apprenticeship training program for millwrights, pipefitters, electricians, instrumentation techs, and welders involved in the ABC training program. Over 20 modules of original, contextual curriculum were developed to teach the reading and math skills required for success in the craft training program.

Materials developed for instruction incorporated cognitive strategies for learning basic skills in the context of the craft and safety knowledge demanded by the industrial construction workplace. Instruction was written for a competency-based, open-entry/open-exit, individualized adult learning program that operated at the ABC training center in the evenings after work-hours.

By the end of this lesson, you will be able to find main ideas in paragraphs and passages.

OBJECTIVE

INSTRUCTION

Consider the following list of items:

Measuring Tools
Flat Rules
Steel Rules
Wooden Folding Rules
Measuring Tapes

On the top of the list are the words Measuring Tools. Second you see the words Flat Rules. Underneath, you find the words Steel Rules, Wooden Folding Rules, and Measuring Tapes. Measuring Tools is the general topic of this list. This item is the broadest one. Flat rules is the second most general word in the list. All the other words in the list are different kinds of flat rules. Thus, flat rules is the main idea for this list of items. This is because flat rules is the one item that tells about all the other words. Steel rules, wooden folding rules, and measuring tapes are the supporting details.

Similarly, a paragraph and passage containsof a topic, main idea, and details. Its topic is a general subject. Its main idea concerns the essential elements that tell about the topic. The main idea is the key concept. Details limit or describe the main idea. Pictures, conversations, movies, commercials, passages and paragraphs all contain topics, main ideas, and details.

Think of an umbrella. It must cover all of you to work. A main idea must cover all the details within a paragraph to work well. If either one has "holes" in it, it is useless. Details tell how, when, how much, how many, why, or what kind. Details give information about one topic. They relate to each other in some way. Locating the topic, main idea, and details helps you understand the writer's point. Finding them increases your understanding.

Authors sometimes place main ideas in topic sentences. These sentences are often the first or last sentence of the paragraph. However, authors can place them anywhere or nowhere at all. You need to find it for yourself. The steps for doing so follows:

1. Read the paragraph.
2. Ask yourself "What is the one thing this paragraph is about?" This is the topic.
3. Look for details that point to or support the topic. What thought is being stated? This is the main idea.
4. Think of a sentence that summarizes this idea.
5. Look for a sentence that says this key concept. If you see one, underline it. If you do not, write your main idea statement in the margin beside the paragraph.

For example, consider the two paragraphs below.

The socket is the part that grips the nut or bolt. Most common sockets have 6 or 12 gripping points. Sockets also come in different lengths. The long socket is called a deep socket and is used when normal sockets will not reach down over the end of the bolt to grip the nut.

Commonly used blades on the table saw are the crosscut, rip, combination, and hollow ground. These blades should be inspected frequently for damage and sharpened when necessary. When using the table saw, the saw blade should be adjusted to extend only 1/8 - inch through the stock. The vertical position of the saw blade is controlled by the saw raising handwheel. The saw guard should be kept in place whenever possible.

The main topic of the first paragraph is the socket. The second sentence talks about the number of grip points on a socket. The third and fourth sentences concern the length of sockets. This changes so that sockets can grip hard-to-get-at bolts. The main idea of this paragraph is that sockets are used to grip nuts and bolts. The first sentence says this exactly. Thus, this paragraph has a stated main idea.

The main idea of the second paragraph is using a table saw. The second, third, fourth, and fifth sentences support this. The first sentence states a detail which gives information. It doesn't, however, concern the main idea. The second paragraph has an unstated main idea.

1 Exercise

Gwen will be using a cold chisel on her next job. She hasn't used one before. She decides to review her text.

> **Chisels are tools used to cut cold metal. This is why they are called cold chisels. The work to be done determines how the cutting edge of the chisel should be sharpened. A slightly rounded edge is used for cutting on flat plates. A straight edge is used for shearing.**

1. What is the main idea of this paragraph? Which words tell you this?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Describe a situation when a cold chisel would be used.

2 Exercise

Virginia needs to cut a circle out of a piece of wood. She plans to use a band saw. She wants to be sure she's got the right tool for the job. She decides to check her text.

Band saws may be either horizontal or vertical and are used to cut many different materials such as wood, plastic, and metal. The band saw is designed mainly for making curved cuts. It can also be used for straight cutting and freehand cutting.

1. What is the main idea of this paragraph? How do you know this?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. What does freehand mean?

5. Could Virginia use a band saw to do the job she wants?

3 Exercise

Mildred needs to use a power fastener to attach a clip angle to a steel beam. This is the first time she has used one of these tools. She's nervous. She checks her textbook before starting.

> **Explosive power is the use of controlled explosion to force fasteners into materials. Explosive power fastening began during World War II. Since then explosive power fastening has become common throughout the construction industry. It is used to fasten everything from heating ducts to wall panels, and ranges from single shot to semi-automatic. In many cases, explosive power fastening makes drilling and plugging concrete and drilling and bolting steel unnecessary.**

1. What is the main idea of this paragraph? How do you know this?

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2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

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3. What is logical about saying that the use of this tool began during World War II?

4 Exercise

Jabor will be using a pneumatic drill on his next job. He has an electric power drill at home. He wonders how the drill he uses at work will be different. He decides to read about power drilling tools. The following paragraph is the first thing he finds to read.

One of the most common industrial power tools is the portable power drill. This tool is called a pistol grip drill or offset handle drill. Powered by air or electricity, the portable power drill is used to drill holes in wood, metal, fiberglass, brickwork, and concrete. With attachments, the drill can be used for sanding, grinding, screwing, and sawing holes. Most of the time, the drill is used to drill holes.

1. What is the main idea of this paragraph? How do you know this?

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2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

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3. Based on the information given above, draw the handle of a portable power drill.

5 Exercise

Suzy needs to cut some plexiglass. She plans to use a circular saw. She checks her text to see if this is the right tool.

Most circular saws are electric. A few are pneumatic. The saw size is noted by the blade diameter. Saw blade diameters are from 4-1/2 inches to 12 inches. The 7-to 8-inch size is the most popular. The arbor shaft holds the saw blade in place. The size of the arbor shaft changes for different saws. The 5/8-inch is the most common.

1. What is the main idea of this paragraph? Which words tell you this?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Does the information in this paragraph answer Suzy's questions?

6 Exercise

John's boss tells him to use a 100-ft. length of rotating wire rope for a boom hoist. John always thought rope was rope. He goes to his text for more information.

If the strands are wound to the right, the rope is called a right lay. If the strands are wound to the left, the rope is called a left lay. When the wires in each strand are wound in the opposite direction from the lay of the strands, the rope is called a regular lay. Right and left lay ropes are the rotating types recommended for crane service and used for boom hoist and multiple part reeving.

1. What is the main idea of this paragraph? Which words tell you this?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Why do you think the word lay is used in describing these types of ropes?

7 Exercise

John had always thought rope was made of cloth or jute. He was surprised to learn that wire rope also existed. He looked up wire rope in his text to learn more about it.

Wire ropes are usually classified by two numbers. The three most common wire ropes are the 6x7, 6x19, and 6x37. The 6x19 wire rope is the most commonly used rope in rigging. The first number is the number of strands in the rope. The second number is the number of wires in a strand. In actual practice, the number of wires in a strand may vary from the classification numbers. In a 6x19 rope, the number of wires in a strand can be as high as 26. In a 6x27 rope, the number in a strand can be as high as 49. Wires in a strand may be the same size or may be different sizes.

1. What is the main idea of this paragraph? Which words tell you this?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. What is the relationship between number of strands in the rope and strength?

8 Exercise

Raul is going to be lifting heavy castings. He plans to use a chain fall to hold the load after he gets it raised. He's used a chain fall once before. It did its job perfectly. Raul wonders how the chain fall works. He is pleased to find this information in his manual.

Another useful lifting device is the chain fall. The chain fall has an automatic brake that holds the load after it is lifted. The brake is a screw-and-disc type. As the load is lifted, a screw gear forces fiber discs together to keep the load from slipping. If the load increases, the brake pressure also increases. The brake holds the load until the lowering chain is pulled. Manual chain falls are operated by hand. Electric chain falls are operated from an electrical control box.

1. What is the main idea of this paragraph? Which words tell you so?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

9 Exercise

Donnie has a load of 26 tons to lift. He knows he cannot use a ratchet jack. So he plans to use a screw jack. His text provides the following information:

> **Screw jacks are used to lift heavier loads. There are two general types of screw jacks, regular and inverted. The screw jack uses the screw and nut principle. For lighter loads, a simple lever bar will apply enough power to turn the screw. For heavier loads, gear reductions and ratchet devices are used to increase the operator's strength. In the heaviest jacks, the screw jack is operated by an air motor for faster lifting and lowering.**

1. What is the main idea of this paragraph? Which words tell you so?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. How do gear reductions and ratchet devices increase the strength of the operator?

4. Why does an air motor speed lifting?

7 Exercise

Yolanda has always had trouble with measurements. She was unhappy to hear that the U.S. might change to a new system of measurement. Yolanda wondered when this all came about. Then she found she had to know the metric system on the job. She was even more unhappy. She went to her text for help.

In 1975, the Metric Conversion Act was signed into law. This act established for the first time a national policy for America's change to the metric system. This means that in the future most of our units of measurement will be changed to metric. Several units of measurement, however, will not change. For example, time will still be measured in hours, minutes, and seconds. Electric power will still be measured in watts. Our money system will also remain the same. The metric system is already being used in many places in the United States. It is used often in the supermarket, at sporting events, and in many of the products used on the job.

1. What is the main idea of this paragraph? Which words tell you this?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Name three specific examples where the metric system is used.

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24 23

OBJECTIVE

By the end of this lesson, you will be able to recognize sequence and comparison-contrast paragraph and passage structure.

INSTRUCTION

Millwrights read blueprints to find out how to build a machine. These blueprints show the construction millwright the design of the piece.

Paragraphs and passages have blueprints, too. This structure of the text lays out the blueprint. The text structure shows how main ideas and details relate to each other. They show the organizational plans. Recognizing these plans helps you find main ideas. It also helps you recall information more easily.

There are several types of text structure patterns. However, your text mainly uses only two: (1) sequence and (2) comparison/ contrast.

In sequence text structure, major points or steps are listed. You may not be told how many points or steps will be discussed. Instead words such as first, second, third, then, next, and finally often signal the number and order of points or steps. Sometimes these words are not actually stated. Instead, the author makes you find the order for yourself.

For example, consider the paragraph below.

> To use a pneumatic drill, first make sure that the air pressure is shut off at the main air outlet. Hold the coupler at the end of the air supply line, slide the ring back, and slip the coupler on the connector that is attached to the air drill. Make sure you have a good connection. A good coupling cannot be takenapart without first sliding the ring back. Once you have a good connection, turn the air supply valve on. The drill is now ready to use.

In this paragraph, the author begins with a signal word. He uses the word first to show where you should begin. After this, however, he leaves it up to you. You have to find the remaining steps. The sequence for the above paragraph would look like this:

1. Make sure the air pressure is shut off at the main air outlet.
2. Hold the coupler at the end of the air supply line.
3. Slide the ring back.
4. Slip the coupler on the connector that is attached to the air drill.
5. Check to see if you have a good connection.
6. Turn the air supply valve on. The drill is now ready to use.

To find sequence text structure, you look first for the main idea, procedure, or problem. Then you find the total number of points or steps and the signal words. Next, you look for the relationship(s) among the items or the steps. Then you list these items or steps so that you can easily follow them.

Comparison/contrast text structure shows relationships between two or more items. Comparisons show how items are alike. Contrasts show how items are different. Signal words sometimes show whether likenesses or differences are shown. Comparison signal words include similarly, both, as well as, likewise, and in like manner. Contrasts signal words include however, on the other hand, on the contrary, but, instead of, although, yet, nevertheless, and alternative. Often these words are omitted. You must find the structure for yourself. For example, consider the paragraph below. It describes two types of cutting blades.

There are also coarse-tooth and fine-tooth cutting blades. The coarse-tooth cutting blade is used to cut wood that is more than 1/2-inch thick. It makes a smoother cut. However, it takes more time to cut with the fine-tooth blade than with the coarse-tooth blade.

To use comparison/contrast text structure, you see how the items are related. You find if they are alike or different. This tells you the main idea of the paragraph. Sometimes signal words are there to help you. Sometimes they are not. Your next step is to organize the details so you can recall them. One way to do this is to make a chart. You do this by completing the following:

1. Make a vertical list of the items you wish to compare/contrast.
2. List horizontally the features you want to know about each item.
3. Draw a grid by sketching lines between each element and each factor.
4. Locate and record the information which fills each box of the grid.

Consider again the paragraph describing cutting blades. The following chart shows the information from it.

TYPE OF CUTTING BLADE	THICKNESS OF WOOD CUT	TYPE OF CUT MADE	TIME SPENT IN CUTTING
Coarse	>1/2"	Rough	Less
Fine	<1/2"	Smooth	More

1 Exercise

Margie always thought everyone knew how to use a claw hammer. She was surprised to find out her boyfriend could not. She thought he might be too shy to learn from her. So she gave him her text to read.

> **To use either hammer, grip the handle. The end should be flush with the lower edge of the palm. Keep the wrist limber and relaxed. Hold the nail with the thumb and forefinger of the other hand, and place the nail point at the exact spot where it is to be driven. Unless the nail is to be driven at an angle, it should be held straight.**
>
> **Strike the nailhead squarely, keeping the hand level with the head of the nail. To drive the nail, first rest the face of the hammer on the head of the nail. Then raise the hammer slightly and give the nail a few light taps to start it. Take the fingers away from the nail and drive the nail firmly with the center of the hammer face.**

1. What is the main idea of the first paragraph? What words tell you this?

2. Is it main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. What is the main idea of the second paragraph? Which words tell you this?

4. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

5. What type of pattern do these paragraphs show? How do you know? Are there any signal words? If so, write them below.

6. Reread the second paragraph. Why is it important to "take the fingers away from the nail?"

7. List the steps in using a claw hammer.

2 Exercise

Mark knows measurements have some amount of error. This worries him. It does so because he wants his cuts to be as exact as possible. He decides to learn more about the kinds of errors people make in measuring.

Observational error is most often cause by shifting the alignment between the measuring instrument and the object being measured. This often happens when the observer moves or changes position. Manipulative error occurs when the measuring instrument is not used properly or is not correctly aligned or adjusted. Instrument error occurs when a poor quality measuring instrument is used or when it is inaccurately adjusted.

1. What is the main idea of this paragraph? Which words tell you this?

2. Is the main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. What organizational pattern is shown here? How do you know?

_____

_____

_____

_____

4. Think of a way Mark could avoid each of the following:

a. observational error: _____

_____

b. manipulative error: _____

_____

c. instrument error: _____

_____

31

32

5. Complete the following chart:

TYPE ERROR	DESCRIPTION	POSSIBLE CORRECTION

3 Exercise

Pam plans to use a hacksaw to cut galvanized steel. She decides to review her text before she begins cutting.

Hacksaw Use

Place the saw on the cutting line. Keep the saw in line with your forearm and begin with light, short strokes. Then increase the strokes to the full length of the blade. Apply light pressure on the forward stroke, because the cutting teeth of the hacksaw blade point forward. The teeth do not cut on the back stroke, so no pressure should be applied.

While sawing, keep your eye on the cutting line rather than on the saw. Watching the line lets you see and correct any movement away from the line. A slight twist of the handle while using short strokes will bring the saw back to the cutting line. Blow away cuttings frequently so you can see the line.

When you near the end of the cut, saw slowly. Hold the waste piece in your other hand so the material will not fall as you make the last stroke.

1. What is the main idea of the first paragraph? Which words tell you this?

2. Is it main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. What is the main idea of the second paragraph? Which words tell you this?

4. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

5. What is the main idea of the third paragraph? How do you know?

6. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

7. What type of pattern do these paragraphs show? How do you know? Are there any signal words? If so, write them below.

8. List the steps in using a hacksaw.

9. Reread the last paragraph. To what do the words waste piece refer? Why would this be called by these words?

4 Exercise

Andrew's foreman inspects wire ropes daily. Andrew thinks this is too often. He questions the foreman. His foreman asks Andrew to read the following:

Before using any wire rope, sling, or choker, visually inspect it for damage and wear. The most common damage to a wire rope is broken wires. Wires wear away and may break as the rope is used, and this metal loss weakens the rope. Regular inspections are necessary for safety and are required by the United States government.

A daily inspection must be made before use. Inspections are usually performed by the crane operator and rigger. Inspecting includes measuring the rope diameter, checking for broken wires and abrasion, separating the strands and checking the core, and inspecting sheaves and elevating drums.

To check for broken wires, the crane cable must be run out and a close visual inspection must be made of the entire cable. It may help to run a cloth along the cable to help find broken wires. The cloth will snag on the broken ends.

1. What is the main idea of the first paragraph? Which words tell you this?

2. Is it main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. What is the main idea of the second paragraph? Which words tell you this?

4. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

5. What is the main idea of the third paragraph? Which words tell you this?

6. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

7. What type of pattern do these paragraphs show? How do you know? Are there any signal words? If so, write them below.

8. List the steps in inspecting wire rope.

9. The text indicates that the government requires "regular inspections." Do you agree with Andrew that daily is too often? Why or why not?

5 Exercise

Debbie will need to use a toolholder on her next job. She will be using a carbide bit. She doesn't know which toolpost to use. She decides she'd better look up information in her text.

The rocker-arm toolpost, mounted on the compound rest, has a slot through it for holding the toolholder. The three toolholders that are used in the toolpost are the left-hand offset, the right-hand offset, and the straight toolholder.

The left-hand offset toolholder is used to machine near the chuck and for turning from left to right (from the tailstock to the headstock).

The right-hand offset toolholder is used to machine near the tailstock and for turning from left to right (from the headstock to the tailstock).

The straight toolholder is used to hold carbide toolbits and is best suited for turning long workpieces.

1. What is the main idea of the first paragraph? Which words tell you this?

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2. Is it main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

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3. Construct a chart which summarizes the information given in the last three paragraphs.

4. What is the purpose of the toolpost? Which words tell you this?

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5. What is the purpose of any toolholder?

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